As you work through the procedures below, create definitions IN YOUR OWN WORDS of the following:

Hypothesis: I think the most common color in each bag of M&M’s is blue.

Data gathering:

Multiple trials

Variance

Average

Median

Mode

Histogram

Pie chart

Inference

Pre-lab

1. Obtain a bag of M&M's. What do we want to know about this bag of M&M's? (Write all the possible questions you can think of.) Include the possible answers to the questions (these are known as hypotheses). We want to know what color of M&M is most common in each bag.

2. How can we find the actual answers to the questions? Give all possible ways to answer the questions. This leads to data collection. We can sort the colors in the bag of M&M’s and see how many there are of each color.

Lab

1. Find a partner to work with.

2. Get 1 bag of M&M's per group.

3. Decide on one question you would like to answer about your bag of M&M's. Write it down. (Do not open your bag.) Your question: What color is most common in each bag of M&M’s.

4. Guess what the answer to your question might be (hypothesize). What is your hypothesis? (Do not open the bag.) Your hypothesis: My hypothesis is there will be more blue M&M’s than any other color.

5. Open your bag of M&M's and answer your questions (data collection/experimentation).

6. Also, be sure to count the total number of M&M's in your bag and the number of each color M&M in your bag.

7. Obtain the data from two other groups.

Data:

|  |  |  |  |
| --- | --- | --- | --- |
|  | 1 | 2 | 3 |
| Total number of M&M's in bag | 56 | 53 | 58 |
| Number of red in bag | 9 | 6 | 7 |
| Number of green in bag | 10 | 10 | 8 |
| Number of brown in bag | 4 | 10 | 8 |
| Number of blue in bag | 12 | 8 | 9 |
| Number of yellow in bag | 8 | 5 | 9 |
| Number of orange in bag | 12 | 14 | 17 |

Data analysis:

1. Looking at the numbers in the data table, are the numbers of total M&M's and the numbers of certian colors of M&M's the same in every bag?

2. From our data, what would be an accurate way to determine the number of M&M's in a random bag I pick up at the grocery store? Use the following terms in your answer: Variance, Average, Median, Mode, Histogram, Pie chart, Inference.